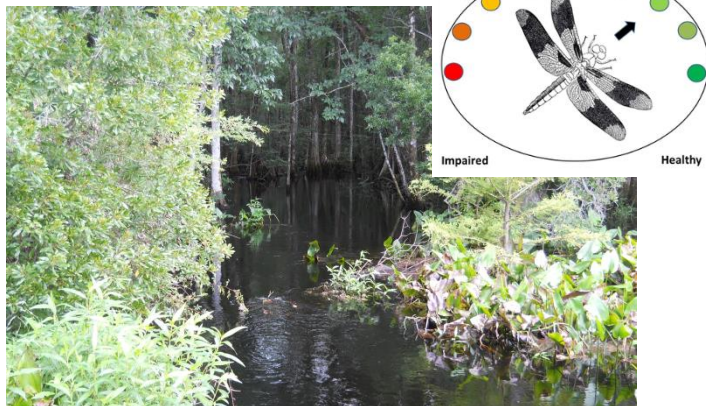


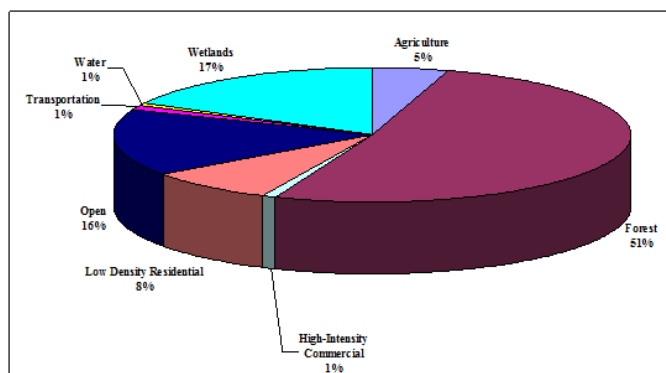
## Waterbody: Chicken Branch



## Basin: St. Marks River

Chicken Branch is located in southeastern Leon County. The stream is partially fed by Chicken Branch Spring and flows southeast, eventually draining into the St. Marks River.

While the following pie chart shows the majority of the 5,054 acre watershed relatively undeveloped, residential, commercial, agricultural, and transportation uses make up approximately 15% of the watershed. Increases in stormwater runoff, and waterbody nutrient loads, can often be attributed to these types of land uses.



### Background

Healthy, well-balanced stream communities may be maintained with some level of human activity, but excessive human disturbance may result in waterbody degradation. Human stressors may include increased inputs of nutrients, sediments, and/or other

contaminants from watershed runoff, adverse hydrologic alterations, undesirable removal of habitat or riparian buffer vegetation, and introduction of exotic plants and animals. State water quality standards are designed to protect designated uses of the waters of the state (*e.g.*, recreation, aquatic life, fish consumption), and exceedances of these standards are associated with interference of the designated use.

### Methods

Surface water sampling was conducted to determine the health of Chicken Branch and met the collection and analysis requirements of the Florida Department of Environmental Protection (FDEP).

### Results

The nutrient thresholds and results are found in Table 1. According to FDEP requirements, Numeric Nutrient Criteria (expressed as an annual geometric mean) cannot be exceeded more than once in a three year period. Due to low water conditions, four temporally independent samples per year could not be collected from this station from 2006-2008 and 2011-2012. The State criteria were not exceeded for either parameter. While neither nitrogen nor phosphorus exceeded historic values in 2014, values were elevated when compared to 2013.

**Table 1.** FDEP's total nitrogen and phosphorus criteria for streams applied to Chicken Branch. The absence of data mean there was not enough data collected (due to lack of water) to fulfill data requirements.

Chicken Branch	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2006- 2008	-	-
2009	0.15	0.04

Chicken Branch	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
<b>2010</b>	0.43	0.05
<b>2011- 2012</b>	-	-
<b>2013</b>	0.27	0.03
<b>2014</b>	0.41	0.05

#### *Dissolved Oxygen*

As Figure 1 shows, Chicken Branch did not always meet the Class III criteria for dissolved oxygen (DO). Low DO levels are typical of Florida spring-run streams and are considered normal for Chicken Branch.

#### *Other Parameters*

Other water quality parameters appear to be normal for the area and no impairments were noted.

#### **Conclusions**

Based on ongoing sampling, Chicken Branch met the nutrient thresholds for the Panhandle East Region. Staff considers the low DO values at Chicken Branch a natural condition for spring fed systems.

Thank you for your interest in maintaining the quality of Leon County's water resources. Please feel free to contact us if you have any questions.

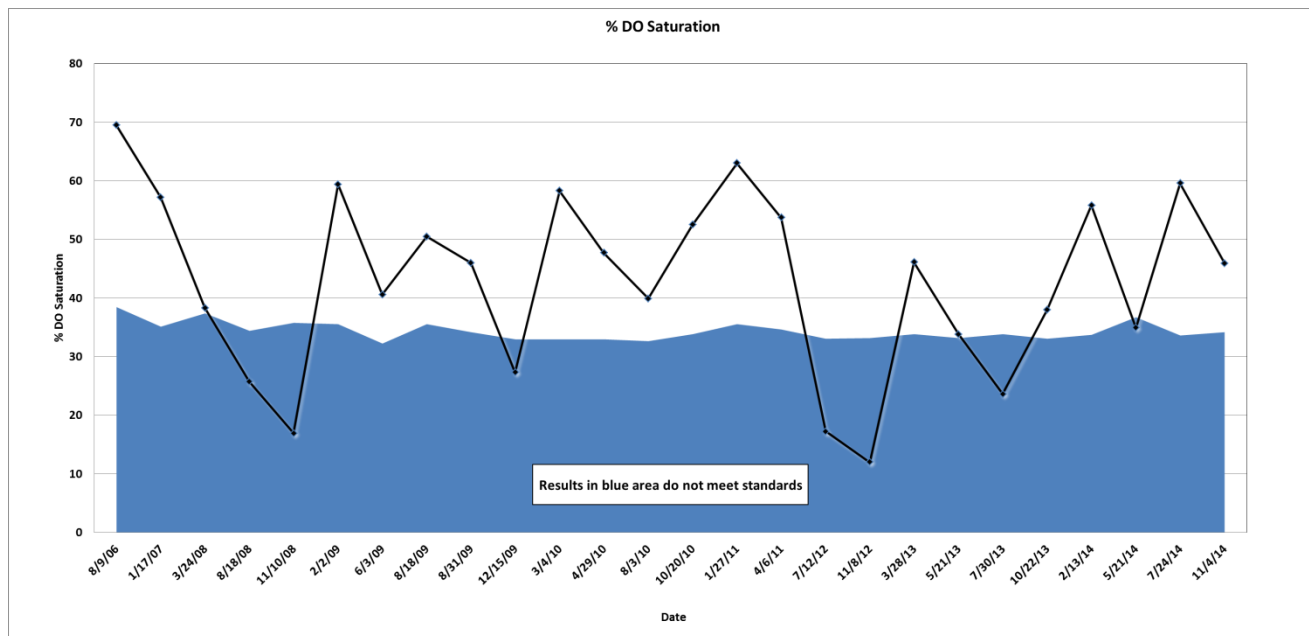
#### **Contact and resources for more information**

[www.LeonCountyFL.gov/WaterResources](http://www.LeonCountyFL.gov/WaterResources)

[Click here to access the results for all water quality stations sampled in 2014.](#)

[Click here for map of watershed – Sample site 53.](#)

Johnny Richardson, Water Resource Scientist  
(850) 606-1500  
[Richardsonjo@leoncountyfl.gov](mailto:Richardsonjo@leoncountyfl.gov)



**Figure 1.** Dissolved Oxygen Percent Saturation results for Chicken Branch.